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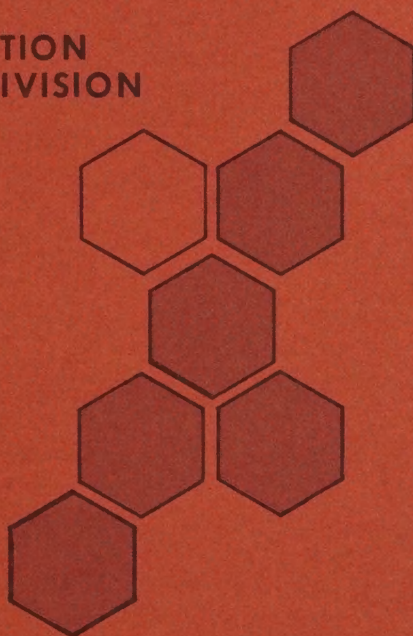
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## FARM PRODUCTION ECONOMICS RESEARCH IN ERS AND BEFORE

Ronald L. Mighell

June 1973

FARM PRODUCTION  
ECONOMICS DIVISION

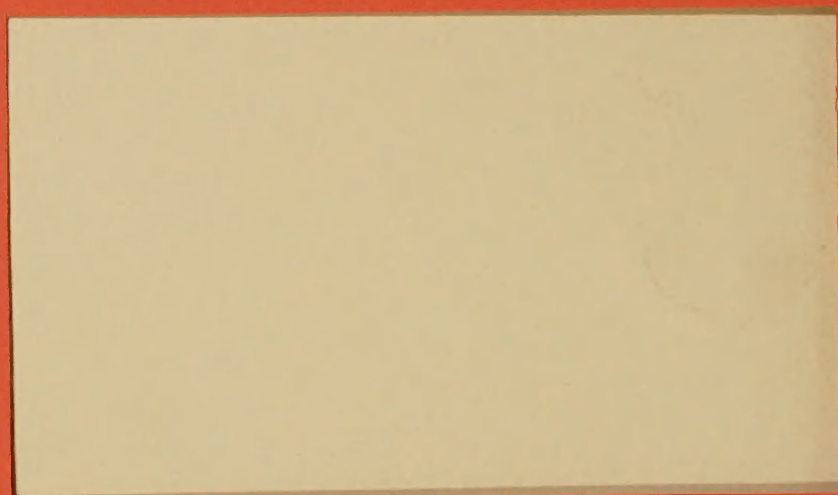


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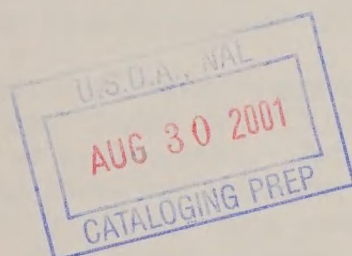




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# FARM PRODUCTION ECONOMICS RESEARCH IN ERS AND BEFORE

By Ronald L. Mighell

## The Early Years

The depression years of the 1890's brought a surge of interest in farm economics as a possible solution to the farmer's ills. It became clear that success in farming involved more than making two blades of grass grow where one grew before. Beginning around 1900, courses in agricultural economics and farm management were offered in several colleges. In 1902, William J. Spillman first organized some farm management work in the Bureau of Plant Industry (BPI) in the USDA. Spillman had come to the Department in that year as an agristologist (one engaged in the botanical study of grasses), but was soon classified as an agriculturist. He was interested in crop experiments and farm management studies of efficient farms.

In 1905, an Office of Farm Management was established in BPI with Spillman as Head. Later in 1915 it was transferred to the Office of the Secretary of Agriculture. Spillman's resignation on August 31, 1918 marked the close of the first era of growth. The foundations had been put in place for farm production economics as well as for marketing and other lines of work. The emphasis in this early period was on the economics of individual farms with cost accounting and farm surveys as methods of finding the most profitable enterprises and systems of farming.

## World War I and After

The entrance of the United States into World War I in April 1917 curtailed work on regular projects and turned attention to war-related problems. The Office of Farm Management took on the jobs of working with the States on provisions for an adequate farm labor supply and of studying the economy of using different kinds of machinery and farm equipment.

Spillman had left in the midst of a war-generated controversy over the use of cost statistics. His interest in cost studies was in its use as a tool in studying farming efficiency. But political forces were now "calling for cost figures with the thought that by some means prices should be made equal to the cost of production, plus a reasonable profit," according to H. C. Taylor in "The Story of Agricultural Economics." Taylor added that in the following period, the "political interest was recognized as important, particularly from the point of view of appropriations."





After Spillman's resignation Secretary David F. Houston called Henry C. Taylor to take over and in 1919 the result was a reorganized Office of Farm Management and Farm Economics. This began a series of steps that under the first Secretary Wallace brought the Bureau of Agricultural Economics (BAE) into being on July 1, 1922. The new BAE combined the former Office of Farm Management and Farm Economics with the recently joined Bureaus of Markets and Crop Estimates. Two of the Divisions in the new Bureau, Farm Management and Cost of Production, were soon merged into one Division of Farm Management and Costs. So far as the research and data functions were concerned, this general arrangement was to last until the abolition of BAE in 1953. At that time Secretary Ezra T. Benson transferred farm management, land economics, and agricultural finance research to the Agricultural Research Service (ARS) and marketing and other functions to the Agricultural Marketing Service (AMS).

The reconstruction of 1961 brought the major parts of economics research in the Department back together in the new Economic Research Service (ERS). The Farm Production Economics Research Division as then set up has continued with minor changes up to the present (June 1973).

During the 1953-61 years in ARS, Farm Management and Costs, Land Economics, and Agricultural Finance were the main elements that formed what was known first as the Production Economics Research Branch (1953-58) and then as the Farm Economics Research Division (1958-61).

The Division of Farm Management  
and Costs in BAE (1922-53)

Secretary Henry C. Wallace's interest in agricultural economics, as well as H. C. Taylor's, was responsible for bringing together the scattered economic agencies in an effort to do something to relieve the severe agricultural depression after World War I.

Improvements in farm management research in the 1920's centered around a critical reappraisal of cost of production data and their analysis. Cost of production surveys and farm cost accounting routes were continued for a time, but the findings were taken with more salt. More attention was given to the use of input data in farm adjustment plans and less to imputed values as indicators of necessary prices. Howard R. Tolley, who became Head of the Division in 1922, had a statistical and mathematical background and brought in others with new views. Mordecai Ezekiel, for example, applied the new correlation analysis to farm survey data. Jesse W. Tapp and John B. Hutson drew on cost studies to develop farm budgeting into a more forward looking tool of analysis to be used with outlook. Secretary Henry C. Wallace and H. C. Taylor



at first thought the outlook-budgeting combination would be a way of helping farmers adjust to reduced market opportunities. Later they concluded that much more was needed to control supplies of farm products.

Secretary Wallace brought Spillman back to the Department in 1922 where he continued to work until his death in 1931. His types of farming bulletin in 1923, his book on "Balancing Farm Output" (1927) and his "Exponential Yield Curves in Fertilizer Experiments" (1933) were significant contributions.

Another line of research that made use of statistical data from individual farms appeared in USDA Tech. Bull. 1277 "Input as Related to Output in Farm Organization and Cost of Production Studies" (1924) by Tolley, Black and Ezekiel. This study tied back to some of Taylor's and Spillman's seminal work in diminishing returns and foreshadowed later studies such as the Jensen-Woodward "Input-Output Relationships in Milk Production" (1942) USDA Tech. Bull. 815 as well as other related work in the 1930's and 1940's.

Another special landmark in the late 20's was F. F. Elliott's detailed study of "Types of Farming in the United States" (U. S. Bureau of the Census, 1933), based on the 1930 Census of Agriculture. This was associated with an extensive series of Federal-State cooperative type-of-farming studies under Elliott's leadership.

Clarence L. Holmes became Head of the Division in 1929 and developed a program of cooperative research that coupled studies in types of farming with analyses of how and why they had developed and of what directional adjustments would be most profitable. When the agricultural adjustment program in the 1930's came along, it drew heavily on the Division for trained personnel and the accumulated stock of information on types of farming, outlook, and budgeting.

Extended illness caused Holmes retirement and Sherman E. Johnson became Division Head in 1937. Sherman Johnson had been brought into BAE in 1935 to lead a study of interregional competition in agriculture, one of several basic studies under the Bankhead-Jones Special Research Fund, in which the second Secretary Wallace (Henry A.) was interested. Because this analysis cut across established structural lines it was for several years an independent unit reporting directly to the Chief of BAE. The study was cooperative with a number of land grant universities and with Harvard University. A number of bulletins were published in the 1940's as parts were finished, and a book by Mighell and Black summarized the study and appraised various approaches to interregional competition, "Interregional Competition in Agriculture." Harvard U. Press (1951).





The political obstacles that had checked the supply control plans of the first Secretary Wallace and H. C. Taylor were largely swept away by the New Deal legislation and even some adverse Court decisions did not reverse the general tide. All this helped broaden the outlook of production economists and helped them look beyond the farm boundaries and consider more than internal farm relationships.

At the outbreak of World War II, production economists in the Division foresaw the need for overall guides to wartime production changes. Preliminary analyses in the Division in 1940 led to a large-scale production capacity study in each of the war years in cooperation with the land-grant universities. These studies supplied the bases for wartime production goals and for indicating postwar adjustments. A number of special wartime studies drew on the accumulated experience and skills of the Division staff members.

A study by Raymond P. Christensen "Using Resources to Meet Food Needs" (1943) devised methods of measuring efficiency in using resources to supply nutritional needs most effectively. As in World War I, farm labor was critical and data on farm labor inputs were brought to bear on many labor problems including the touchy one of draft deferments.

The so-called feed-balance (between feed supplies and livestock numbers) for estimating prospective needs was developed by Ralph D. Jennings and remains a permanent tool in current feed situation analyses.

A group in Agricultural Finance about 1940 constructed a consolidated balance sheet, known later as the Balance Sheet of Agriculture, which also continues to serve in a useful role.

Methods for studying current changes on specific types and sizes of farms by major type of farming areas were worked out under the leadership of Wylie D. Goodsell, and a Cost and Returns Group was started in 1938 that continued to supply a need for many years. This Group made use of individual farm census data and supplementary studies to construct representative farms. They contributed usefully to the solution of war and postwar problems. But as with earlier methods, the approach eventually appeared to be too expensive and not sufficiently additive to answer pressing policy questions.

### After World War II

In the decade following World War II, under Carl Heisig's leadership, economists in the Division made significant contributions in measuring economic changes. Output and input indexes for the Nation and major geographic regions were constructed. A milestone publication was USDA Misc. Pub. 630 "Progress of Mechanization" (1947) by Cooper, Barton, and



Brodell. This covered the sweep of a century. Its first title, "A Century of Progress in Mechanization," was shortened by some dedicated advocate of brevity in Information.

Some giant steps were taken in this decade in providing a more adequate economic classification of farms, helpful in both macro and micro analyses. This took joint effort by BAE and the Bureau of the Census in the 1945 sample Census of Agriculture and in the 1950 Census. A key study was the one by Bachman and Jones on "Sizes of Farms in the United States" (1950), USDA Tech. Bull. 1019. This study provided a platform in economic space for use in dealing with the structure of American farming.

A little later in the 1950's and early 1960's, the work of John Brewster and his group injected a new ferment into structural questions that stimulated further examination of basic beliefs and values. In a controversial zone between philosophy and economics, great differences of opinion have arisen with few observers entirely neutral. The terms, "family farm" and "corporation farm," seem to arouse fighting images in many minds.

In the late 1950's, increasing attention was drawn to the dramatic growth of production contracting and other forms of vertical coordination in agriculture. A special research group made a study that resulted in a pioneering report entitled "Vertical Coordination in Agriculture" (1963) Agr. Econ. Rpt. 19. This laid out some of the applicable economic theory and surveyed the extent of vertical coordination by commodities.

In the postwar period, the Division went through a number of successive organizational shocks and realignments. Most of these reflected overhead organizational changes but had special effects within the Division. There was first the abolition of regional offices in 1946, in which most of the field staff had been concentrated for a number of years. This came about as a result of the higher level political battle about who should do agricultural planning. Congressional action caused curtailment of funds and personnel and brought a specific directive to do away with the regional offices in BAE and other agencies. The field staff members were reassigned to locations mainly at land-grant institutions where cooperative research was continued. Through the 1950's and 1960's various cooperative studies were pursued, sometimes with involvement of the Washington staff and sometimes not. Many of these were adjustment studies in which there was mutual interest. Some were designed to get at specific new techniques. One must remember that this was a yeasty period in which (for one example) linear programming and the computer were first put to use. A lot of things were being explored to the point where the question, "Is Methodology Becoming an End in Itself?" became the theme of a leading session in the 1963 AFEA annual meetings.

A mounting feeling was that production economics research was becoming too fragmented and that resources were not being sufficiently focused on





agricultural program and policy questions about possible modifications of national programs. In 1963, M. L. Upchurch, who was then Division Director, set up a task force to determine what could be done to strengthen this area of research. The resulting model was described by W. Neil Schaller in a paper in the April 1968 Agricultural Economics Research, "A National Model of Agricultural Production Response." The continuing work on this model has been done by a team located partly in Washington and partly in the field.

Analysis of the economic effects of farm pesticides use is an example of a new line of work that came to the Division in the 1960's as a result of specific legislation. Information was needed to supply a great gap in knowledge about the extent of use of farm pesticides and their relationship to the environment. Neither the followers of Rachel Carson nor their interested opponents really had enough information. Several successive nationwide surveys have partly filled this vacuum and we can now examine some of the issues with more certainty.

#### Intertwined Lines of Work

A full history of this Division could easily turn into an account of all economic research in the Department. Land economics, agricultural finance, marketing and prices, and foreign agricultural economics had significant beginnings, or contacts, with farm management and farm production economics. We have never been isolated.

Land Economics work has had an especially close relationship with production economics. It was a separate Division in BAE and again in ERS. But during the 8-year interregnum 1953-61 was joined in the same Division, first called Production Resource Branch (PRB, 1953-58) and then Farm Economics Research Division (FERD, 1958-61).

The ERS designation for land economics was at first (1962) the Resource Development Economics Division (RDED). In 1965, this became the Natural Resource Economics Division (NRED) after a new division, the Economic Development Division (EDD) was split out of it. The story of both these divisions in the development, use, conservation, and management of rural resources is important, but is best pursued separately.

The farm real estate work now in the Production Resources Branch has made a number of migrations since the early 1920's when E. H. Wiecking first pioneered with it in the old Land Economics Division. For some time it was in Agricultural Finance.

Agricultural finance research began in the Office of Farm Management, was transferred to the Bureau of Markets in 1913, back to the Office



of Farm Management in 1919, and became a separate Division in BAE in 1922. In the 1953 breakup, it was transferred to the Production Economics Research Branch and has remained in the Division since then. Agricultural finance is also a story that needs separate telling.

### Division Leadership

The Division has had some notable leadership. One must recognize that leadership includes more than the Division Heads or Directors. I think especially of the significant supporting role of Deputy Directors like E. H. Wiecking and Lynn Rader. Ernie referred to his job as Vice President in charge of Nuts and Bolts, and if this is what keeps things together he was right.

My list of Division Heads or Directors follows:

William J. Spillman	-	1902-18
Henry C. Taylor	-	1919-22
Howard R. Tolley	-	1922-24, 1926-28
Milburn L. Wilson	-	1924-26
Clarence L. Holmes	-	1929-37
Sherman E. Johnson	-	1937-46
Carl P. Heisig	-	1946-61
Hugh Leonard Stewart	-	1961-63
Melvin Louis Upchurch	-	1963-65
Wesley Burton Sundquist	-	1965-71
John E. Lee, Jr.	-	1971-73

Not many of us now here, had an opportunity to know them all. Spillman and Taylor need no further comment at this point. M. L. Wilson is probably more remembered for his long and distinguished career elsewhere in the Department in charge of the wheat program in the AAA, as Undersecretary, and as Director of the Cooperative Federal Extension Service.

My first contact with C. L. Holmes was when he was Department Head at Ames in my undergraduate days. His contribution to the Division was in refocusing objectives and in bringing in a number of new people. He served in a difficult period, because the AAA and other New Deal agencies drew on the Division for building their own staffs.

Sherman Johnson is especially remembered for his organizing ability in connection with wartime production capacity and goals work.

Carl Heisig served 15 years as Head and Director of the Division, longer than anyone except Spillman. He was a moderating influence in the transitions from BAE to ARS and to ERS.





H. L. Stewart's untimely illness and death removed him before his full influence could be felt. His greater contribution was probably earlier when he was field group leader.

M. L. Upchurch's long earlier field background and his sustained capacity for getting things done enabled him to initiate several new lines of work.

Burt Sundquist combined unusual analytical and administrative abilities. His influence helped in gradually reorienting research and developing current economic intelligence.

Of John Lee's service I cannot yet speak in the past tense. Let me observe that I was one of the early students of John D. Black and he was one of the last.

### Is This The End?

Uptown on 13th and F Street, a sign in the middle of the street reads: "End Construction." The meaning of this at first puzzled me. Does it mean that all construction is about to stop? Obviously not, from other signs of activity around this city. Apparently it is just the end of construction along one street. What has been done will endure and be used hereafter.

We may need to erect a sign (mental) about the Farm Production Economics Division somewhere that says: "End of Construction" at this site but work continues elsewhere."

Another sign that some workmen had written on a construction shack next to a high building that was going up in the midst of utter confusion read "This Too Will Pass." One thing that our history tells us is that particular organizational structures are subject to change. The changes sometimes come unexpectedly as administrations change, or as new problems or ways of viewing problems arise.

When we are completely honest, we recognize that major reorganizations carry both pluses and minuses. We always hope that the good will outweigh the harm and usually it does.

Old organizations tend to build unnecessary walls and reorganizations remove some of them and let the light in.

The early leaders in agricultural economics were often strong-minded men who won their way to recognition by carving out a space and then defending it, they practiced the "territorial imperative."



Most land-grant colleges once had separate departments of farm management and agricultural economics. Members of the early ones were inclined to be independent souls. Once in my own early experience in a farm management department, I was called on the carpet (his carpet) by the Head of Agricultural Economics and asked why I had signed myself agricultural economist on some newspaper articles, I had written, when I was only a farm management specialist.

Again a little later in BAE, Oscar Stine, who was Head of Statistical and Historical Research in BAE, asked me outright what business I had in writing an article on demand for the JFE. That was in his field. I later learned to have a high regard for Dr. Stine.

My own feeling is that the level of tolerance in the present generation of economists is higher. I hope I am not wrong.

Let me close with a statement that George F. Warren made in a 1932 paper in the JFE.

"There are no boundaries in human knowledge. All our subject matter divisions are merely human expedients for administrative purposes. Human knowledge cannot be defined in two dimensions, but if it is to be described as a field, it is a continuous field without fences, except arbitrary ones that have been built up by men who have had some vested interest. Not infrequently the effort expended in maintaining these fences would add materially to our sum of knowledge if it were expended in research . . . ."





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